

**AUTOMATED STORAGE AND RETRIEVAL SYSTEM FOR PALLETLESS DAIRY CASES**

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**Abstract of CA2269168**

An automated storage system for receiving, storing and returning dairy cases stored without pallets. Specifically, the automated storage system comprises an article transporter which includes a shuttle that deposits and retrieves dairy cases stored in storage lanes of a storage rack and a rail system for supporting the shuttle and dairy cases stored thereon. One or more shuttles may be used in the automated storage and retrieval system and are coupled via a shuttle bridge. The rail system includes two or more outer support rails and two or more inner support rails for supporting the shuttle and dairy cases. The rail system also supports normal Grocery Manufacturers Association (GMA) pallets or other special slave pallets. The bottom flange of the rail system has a "drip pan" style to contain leakage from the dairy cases. This "drip pan" design allows personnel to walk inside the storage lanes safely. The automated storage system also includes top guide rails and side guide rails mounted on the rigid framework of the automated storage system which prevent stacked dairy cases from tilting, tipping or misaligning when the dairy cases are stored within and transported through the storage lane. The automated system further includes predetermined gravity-feed storage lanes with roller conveyors which include two outer roller rails and one inner roller rail positioned so as to receive and support the stacked goods at the same position as the outer support rails and the inner support rails. The two outer roller rails also include tilt-in rollers which further prevents misalignment of the goods as they are transported on the roller conveyors through the gravity-feed storage lane.

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